Enclosure
99-RU-0374

Safety Evaluation by the DOE Regulatory Unit
of Proposed Authorization Basis Amendment Request,
ABAR-W375-99-0003,
to the Safety Requirements Document (SRD)
Standard for Configuration Management
for the River Protection Project-Privatization
(Contract DE-AC06-96RL13308)

1. INTRODUCTION

In accordance with the requirements of RL/REG-97-13, "Regulatory Unit Position on Contractor Initiated Changes to the Authorization Basis," Revision 5, BNFL submitted an Authorization Basis Amendment Request (ABAR) to revise the implementing standard for configuration management.[1] This ABAR responds to the following conclusion regarding configuration management in the RU evaluation of the BNFL Initial Safety Assessment (ISA):[2]

> "The essential configuration management program objective—maintaining consistency among the design requirements, the authorization/safety basis, work control, change control, physical configuration, and documentation—is adequately demonstrated. The following open issues should be addressed during Part B:
>
> - Identification of a subordinate standard beyond regulatory compliance for configuration management, which conveys more detailed expectation for the performance of work."

The proposed amendment deletes references to the Integrated Safety Management Plan (ISMP) as an *ad hoc* standard (see "Background, below) and designates International Organization for Standardization (ISO) 10007[3] as the implementing standard for configuration management.

2. BACKGROUND

BNFL is required by contract to conform to certain top-level standards and to define subordinate standards for implementing the top-level standards.

The top-level standards[4], invoked on BNFL by contract, contain the following configuration management requirements:

---

[1] Letter, D. W. Edwards to D. C. Gibbs, May 17, 1999, "TWRS Privatization Contract No. DE-AC06-96RL13308 - W375 - Authorization Basis Amendment Request Regarding Identification of Configuration Management Subordinate Standard."

[2] *DOE Regulatory Unite Initial Safety Evaluation Report of the BNFL Inc. Initial Safety Assessment* , RL/REG-98-09, Revision 0, March 1998, Section 3.9.3.1, "Configuration Management."

[3] ISO 10007, "Quality management - Guidelines for Configuration Management," 1995.

[4] *Top-Level Radiological, Nuclear, and Process Safety Standards and Principles for TWRS Privatization Contractors*, RL/REG-96-0006, Revision 1, July 1998.

a. Formal Configuration Management

Formal configuration management should be applied to all facility activities during the program's lifetime to ensure that programmatic objectives, including safety, are fully achieved. Work should be performed and controlled according to pre-approved plans and procedures that clearly delineate responsibilities. Documented records should be retained.

b. Contractor Design Knowledge

The Contractor operating organizations should become and remain familiar with the features and limitations of components included in the design of the facility. They should obtain appropriate input from the design organization on pre-operational testing, operating procedures, and the planning and conduct of training.

c. Design Documentation

A system should be used to control and maintain accurate as-built drawings during the life of the facility.

BNFL established the following Safety Criteria to conform to these top-level standards:[5]

Safety Criterion 4.0-1, which states, "Formal configuration management shall be applied to all facility activities through deactivation of the TWRS-P facility to ensure that programmatic objectives, including safety, are fully achieved. Work shall be performed and controlled according to pre-approved plans and procedures that clearly delineate responsibility. Documented records shall be maintained."

Safety Criterion 4.0-2 which states, in part, "Written procedures shall be established and implemented to manage changes (except for 'replacements in kind') to process chemicals, technology, equipment, and procedures; and, changes to facilities that affect a covered process."

Safety Criterion 4.0-3 which states, "A system shall be used to control and maintain accurate as-built records for Important to Safety SSCs through deactivation of the facility."

Safety Criterion 7.0-3 which states, in part, "The operating organizations shall become and remain familiar with the features and limitations of components included in the design of the facility."

BNFL selected sections of their Integrated Safety Management Plan (ISMP)[6] as subordinate (implementing) codes and standards for these Safety Criteria. The specific portions of the ISMP invoked are:

- Chapter 8.0, "Document Control and Maintenance"
- Section 1.3.16, "Configuration Management"

[5] *Safety Requirements Document*, BNFL-5193-SRD-01, Revision 2, Vol. 2, December 2, 1998.
[6] *Integrated Safety Management Plan*, BNFL-5193-ISP-01, Revision 4, December 2, 1998.

- Section 5.3, "Configuration Management"
- Section 5.6.1, "Procedure Development"

These portions of the ISMP invoke the following parts of the BNFL Initial Safety Assessment (ISA) to provide further detail on the BNFL configuration management standard:

- Section 3.1, "Configuration Management"
- Section 3.8, "Records Management"

3. EVALUATION

BNFL provided an analysis of this proposed change, in the form of a Safety Implementation Note, separate from the ABAR.[7] The Note describes the BNFL rationale for the proposed change. In addition, the note provides:

- The members of the team performing the analysis
- The standards examined before selecting ISO 10007
- The relationship between the ad hoc standards and ISO 10007

The RU examined the BNFL rationale, with an emphasis on the equivalency of the current *ad hoc* standards and ISO 10007. The RU met with BNFL on June 10, 1999, to discuss the change and the BNFL analysis. The RU noted that the *ad hoc* standards contain a number of specific commitments, while ISO 10007 is more general in its requirements. In addition, the BNFL analysis does not consider commitments contained in the sections of the ISA invoked as part of the *ad hoc* configuration management standard.

In order to establish the acceptability of the proposed change, the RU reviewed the guidelines of ISO 10007 against the top-level standards. The RU also examined the BNFL analysis of how the ISMP commitments relate to the ISO 10007 guidelines and agrees with the BNFL "mapping" of the *ad hoc* standards to ISO 10007. The RU review recognized that the ISMP contains specifics that are not in ISO 10007. This is acceptable because the RU found that ISO 10007 adequately implements the top-level standards. The RU determined that ISO 10007 is equivalent to the existing *ad hoc* standards and in some areas, such as defining guidelines for a configuration management board, provides additional guidelines.

The RU also evaluated the invoked ISA configuration management commitments. The RU identified nine specific commitments. The RU verified that these commitments were within the scope of ISO 10007 guidelines. Similarly, the RU reexamined the configuration management commitments contained in the Quality Assurance Program and Implementation Plan (QAPIP).[8] The RU found that ISO 10007 overlapped and was consistent with these commitments.

The RU reviewed the previous analyses of configuration management contained in the original evaluation reports of the BNFL SRD,[9] ISMP[10] and ISA[11] to ensure that the proposed standard

---

[7] Letter, D. W. Edwards to D. C. Gibbs, June 15, 1999, "TWRS Privatization Contract No. DE-AC06-96RL13308 - W375 - Authorization Basis Amendment Request Regarding Identification of Configuration Management Subordinate Standard - Additional Information."

[8] *Quality Assurance Program and Implementation Plan* ,BNFL-5193-QAP-01, Revision 4, May 1998.

[9] *DOE Regulatory Unit Evaluation Report of the BNFL Inc. Safety Requirements Document*, RL/REG-98-01, Revision 0, March 1998, Section 3.2.3.1.5, "Configuration Management."

addressed any noted inadequacies. The RU found no inconsistencies between these documents and the proposed standard.

Finally, the RU examined ISO 10007 against the Department of Energy Standard for Configuration Management[12] and a separate DOE good practice guide.[13] The RU found the guidelines of ISO 10007 were consistent with these documents.

Approval of the amendment would eliminate the use of unnecessarily detailed *ad hoc* standards. In addition, it would establish the use of an internationally recognized standard as the basis for configuration management activities.

4. CONCLUSION

On the basis of the considerations described above, the Regulatory Unit has concluded that there is reasonable assurance that the health and safety of the public and the workers will not be adversely affected by this proposed amendment. The proposed amendment complies with applicable laws, regulations, and requirements, and is in conformance with DOE-stipulated safety standards and principles. Accordingly, this review concludes that the proposed amendment would not adversely affect the objectives of the RPP-P authorization basis in terms of the above criteria.

.

---

[10] *DOE Regulatory Unit Evaluation Report of the BNFL Inc. Integrated Safety Management Plan* , RL/REG-98-03, Revision 0, March 1998, Section 3.2.2.5, "Configuration Management."

[11] *DOE Regulatory Unite Initial Safety Evaluation Report of the BNFL Inc. Initial Safety Assessment*, RL/REG-98-09, Revision 0, March 1998, Section 3.9.3.1, "Configuration Management."

[12] DOE-STD-1073-93-Pt.1, "DOE Standard - Guide for Operational Configuration Management Program," November 1993.

[13] GPG-FM-012, "Configuration and Data Management," Department of Energy, April 1996.